QD-QA-015
REVISION G
EFFECTIVE DATE: October 22, 2004

ORGANIZATIONAL INSTRUCTION

SPECIAL PROCESS AUDITS

OPR(s)	**OPR DESIGNEE**
QD10, QD20, QSD0, and QD40	**Shirley Blair**

DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		10/7/97	
Revision	A	11/19/97	Added option to use audit finding form of MSFC-P06.1-C07. Added random surveillance record.
Revision	B	1/28/99	General Revision
Revision	C	6/9/99	Changes made to reflect new organization code changes and/or Changes made to reflect new directives renumbering scheme and to incorporate the corrective action for closure of NCR 266
Revision	D	11/30/99	General Revision and comply with corrective action for RCAR 113
Administrative	N/A	8/30/00	OPR and/or OPR Designee change due to personnel transfer or other administrative reason. No other change to this document has been made.
Revision	E	9/05/02	Format and numbering change to implement requirements of QS-A-001 rev F.
Revision	F	09/18/03	Use generic term in place of QAO at 1.1, 1.3, and 4.1. Add (g) and (h) to 1.1. Update applicable documents. Address use of MSFC Form 4438 and 4335 to 4.1. Address procedure usage for mini-audits or surveillances in 4.2. Delete reference to Appendix C in 4.3. Update 7 for deletion of old form and deletion of Appendix B and C. Update Quality Records retention time in 8. Delete Appendix B and C in their entirety.
Revision	G	10/22/04	Revised to comply with HQ Rules Review Action (CAITS: 04-DA01-0387). Change to Times New Roman 12. Change QS to QD to reflect S&MA organizational changes. Reversed and re-worded purpose and scope to meet S&MA OI format. Added MSC inspection personnel to the scope in 1.2 and applicability in 1.3. Change MPG references to MPR. Clarify the instructions in 4.1 and 4.1 (a) and address advance coordination. Clarify the use of the checklist in 4.1 (b, c, d). Allow for hardware discrepancies to be documented per MPR 8730.3 or defer to the contractor's discrepancy system in 4.2.2. Address frequency of FSC mini audits in 4.2.3. In 4.3, further define audits in the East and West Test Areas. Show Records as a Table in 8 to close NCR 615. Change from Quality Records to just Records in 8. Add spaces to the checklist in Appendix A to record listings of specific personnel, equipment, and records audited including findings and corrective actions.

SPECIAL PROCESS AUDITS

1. PURPOSE, SCOPE, APPLICABILITY

1.1 Purpose. This instruction defines the method for evaluating the performance of special processes at MSFC including contractor controlled specific processes.

1.2 Scope. This instruction shall be used by Safety and Mission Assurance (S&MA) and Mission Support Contractor (MSC) Inspection personnel to evaluate MSFC or on-site contractor compliance with controls for processes which can affect the quality of the hardware, but compliance with requirements cannot be determined by inspection of finished articles alone. Examples are precision cleaning, welding, soldering, plating, non-destructive evaluation. This instruction may also be used to evaluate the following processes/operations not subject to routine surveillance:

a. Calibration lab.
b. Valve lab.
c. Insulation preparation and application.
d. Fabrication services contractor.
e. Test area contractors.
f. Others as determined.
g. Accuracy and Completeness of records documentation submittals.
h. Parts storage or kitting activities.

1.3 Applicability. This instruction is applicable to all S&MA and MSC inspection personnel.

2. DOCUMENTS

2.1 Applicable Documents

MWI 4530.1 Flight Hardware Support Operations (FHSO) Component Acquisition, Inventory Control, and Kitting Services

MPR 8730.3 Control of Nonconforming Product

MWI 1280.4 MSFC Quality System Deficiency Notice System

QD-QA-001 Acceptance Reporting

QD-QA-014 Quality Assurance Records Center

QD-QA-018 Review of Work Authorizing Documents

2.2 Reference Documents

None.

3. DEFINITIONS

None.

4. INSTRUCTIONS

4.1 For evaluation of a defined process (e.g. manufacturing, cleaning, metrology) the following procedure shall be employed:

a. Notify the activity to be evaluated through appropriate channels a minimum of 10 working days in advance of the audit if performing a system level audit (i.e. a system level audit of the Metrology Lab requires advance coordination through the NASA Contracting Officer and the affected contractor's Quality Manager).

b. Use the attached checklist as a guideline for the evaluation or develop more detailed checklists. The checklist may be adjusted as required to fit the needs of the process being evaluated. Audit the activity using the checklist as a guideline. Document findings on MSFC Form 4438, NASA Quality Surveillance Report and/or the prepared checklist. The back of the MSFC Form 4438 shall be used to record details or corrective actions/follow up when block II space is filled up. Alternatively, the prepared checklist can be used to capture audit details if more data needs to be recorded than will fit on the MSFC Form 4438. Sufficient data must be recorded to define personnel, records, and equipment audited including any findings or corrective actions.

c. Discuss findings with personnel responsible for the process. Provide a completed MSFC Form 4438 documenting the results of the evaluation. Request that the auditee provide recommended corrective action plans and notify the auditor when corrective action is complete. Minor findings which can be quickly corrected may be resolved and noted as closed on the MSFC Form 4438 or prepared checklist. Significant findings requiring more formal corrective action or procedural updates shall be documented on a Quality System Deficiency Notice (QSDN), MSFC Form 4335, per MWI 1280.4.

d. Provide a one time follow-up to verify effectiveness of corrective action. The completed MSFC Form 4438 (and the audit checklist if different from the guide in this procedure or if the checklist itself was used to capture audit data or results) shall be forwarded to the applicable records center for retention.

4.2 This instruction is to be used to perform mini-audits or surveillances of the Fabrication Services Contractor's quality control system to determine effectiveness. These mini-audits shall be performed with minimal disruption to work flow and shall be coordinated with the contractor's quality manager or area inspector.

4.2.1 The mini-audit provides objective evidence that the Fabrication Services Contractor is:

a. Consistently implementing and verifying engineering and quality requirements via the work authorizing document (WAD).

b. Effectively implementing these requirements during the build of the hardware.

4.2.2 The mini-audits shall be performed by randomly sampling work authorizing documents (WAD's) and reviewing in accordance with QD-QA-018. Flight hardware shall be selected at random and inspected for compliance to WAD and drawing requirements. Hardware non-conformances shall be documented in compliance with MPR 8730.3 or the Fabrication Services Contractor's non-conformance system.

4.2.3 The surveillance frequency shall be determined by the Inspection Team Lead and shall be based on quality history and the availability of inspection personnel to audit.

4.3 Random surveillance shall be performed on test area contractors utilizing the audit guidelines in Appendix A and MSFC Form 4438 to determine compliance with contract and WAD requirements at a frequency determined by the Test Area Inspection Team Lead. Minor findings which can be quickly corrected may be resolved and noted as closed on the MSFC Form 4438 or a Quality Test Preparation Sheet (QTPS) in the East and West Test Areas. Significant findings requiring more formal corrective action or procedural updates shall be documented on a Quality System Deficiency Notice (QSDN), MSFC Form 4335, per MWI 1280.4. Audit forms and checklists completed in the East and West Test Areas shall be retained by the assigned Inspection Team Lead.

5. NOTES

None.

6. SAFETY PRECAUTIONS AND WARNING NOTES

None.

7. APPENDICES, DATA, REPORTS, AND FORMS

MSFC Form 4438 NASA Quality Surveillance Report

Appendix A Special Process Audit Checklist

8. RECORDS

Record	Repository	Period of Time
MSFC Form 4438 and completed audit checklist	Quality Assurance Records Center or Test Area Inspection Team Lead	Maintain for 2 years from origination date and then destroy. NPR 1441.1 (NRRS) 5/30C.

9. TOOLS, EQUIPMENT, AND MATERIALS

None.

10. PERSONNEL TRAINING AND CERTIFICATION

None.

11. FLOW DIAGRAM

None.

Appendix A

SPECIAL PROCESS AUDIT CHECKLIST

PROCESS _____ DATE_____

RESPONSIBLE ORGANIZATION_____

EVALUATION PERFORMED BY_____

INDIVIDUAL CONTACTED_____

SECTION I: TRAINING AND CERTIFICATION

1. List the applicable code/standard/specification(s):

2. Is there a documented training program?

3. Is certification required by the training program?

4. Does training include demonstration of proficiency?

5. Are records of employee training/certification being kept up to date?

6. Does the training program document provisions for evaluation of personnel who were trained/certified by a previous employer?

7. Do training/certification records specify the date, process or skill, and renewal date, and name of training/certification provider?

SECTION 1: COMMENTS OR OBSERVATIONS

SECTION 1 LISTING OF SPECIFIC /WAD/RECORDS/EQUIPMENT/PERSONNEL WHICH HAVE BEEN AUDITED:

SECTION 1 DISCREPANCIES/FINDINIGS NOTED:

SECTION 1 CORRECTIVE ACTIONS TAKEN ON THE SPOT OR QSDN'S INITIATED:

SECTION 2: PROCESS CONTROLS

1. List the applicable code/standard/specification(s)

2. Are process control procedures written?

3. Are process control procedures available at the work-site?

4. Are process control procedures up-to-date and approved?

5. Is equipment certified/calibrated and up-to-date?

6. Are process changes documented through revised procedures?

7. Does work authorizing documentation comply with drawing requirements and specify the process required?

8. Does work authorizing documentation accompany the item?

9. Are samples taken as required and results available?

10. Is process discontinued for corrective action investigation whenever nonconformances/out-of-specification conditions are identified?

11. If a process departure is found, is remedial/corrective action taken?
If yes, where is this documented?

12. Does work authorizing documentation reflect the person/persons responsible for performance/acceptance of the process?

SECTION 2 COMMENTS OR OBSERVATIONS:

SECTION 2 LISTING OF SPECIFIC WAD/RECORDS/EQUIPMENT/PERSONNEL WHICH HAVE BEEN AUDITED:

SECTION 2 DISCREPANCIES/FINDINGS NOTED:

SECTION 2 CORRECTIVE ACTIONS TAKEN ON THE SPOT OR QSDN'S INITIATED: